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EXAMINER

JENNISON, BRIAN W

ART UNIT

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4184

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/571,787 | Applicant(s) SCHMITT-WALTER, STEFAN | |
| | Examiner BRIAN JENNISON | Art Unit 4184 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/15/2006</u> <u>6/12/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Welding Tongs with Self Supporting Sliding Housing".

Claim Objections

2. **Claim 16 is objected to because of the following informalities:** Based on the amendments to the claims it is apparent applicant intended to delete the phrase, in lines 1-2, "one of the aforementioned claims" but, overlooked the deletion. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 3, 17-18, 20, 23, 27, 40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

5. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent

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protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance:

Claim 3 recites the broad recitation "linear guide" in line 4, and the claim also recites "sliding guide" in lines 4-5 which is the narrower statement of the range/limitation.

Claim 17 recites the broad recitation "force application" in line 4, and the claim also recites "in particularly sideward direction" in lines 4-5 which is the narrower statement of the range/limitation.

Claims 18 and 20 recite the broad recitation "screws" in line 2, and the claim also recites "in particularly set screws" in line 3 which is the narrower statement of the range/limitation.

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Claim 40 recites the broad recitation "locked joint" in line 3 and the claim also recites "in particular by locating pins, feather keys, film with hard particles" in lines 5-6 which is the narrower statement of the range/limitation.

6. Claim 23 recites the limitation "the cover panels" in lines 2-3 of the claim. There is insufficient antecedent basis for this limitation in the claim. The cover panels in claim 23 refer to different cover panels than in claims 10 or 11.

7. Regarding claims 27 and 40, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d). The phrases "or similar device" in line 6 of claim 27 and "or similar components" in the last line of claim 40 are analogous to the phrase "or the like."

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. **Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Beauregard et al (US 2003/0089684).**

Beauregard et al teaches:

Regarding Claim 1: Welding tongs with two limbs which can be moved relative to one another, of which at least one first limb is supported such that it can be moved relative to a drive housing between an insertion position and a welding position a work piece to be welded is being clamped in said welding position to welding contacts on ends of the welding tong limbs, **(Fig 27 shows electrode limbs 124 and 126 with limb 126 being movable relative to a housing between and insertion position and a welding position with welding contacts on the ends of the limbs. See Paragraphs [0070]-[0071])** said contacts being essentially inclined towards each other, wherein the welding tongs comprise a particularly self- supporting moveable housing, which can move along the drive housing and which comprises a retaining device which supports the first welding tong limb outside of the drive housing. **(The actuator 128 makes up a moveable housing which moves the welding contacts on arms 124 and 126 towards each other, and acts as a retaining device along with trunnion 188 in Fig 42, to perform the welding operation with the arm 126 or first limb being outside the drive housing. See Fig 27, 28 Paragraph [0027])**

Regarding Claim 2: Welding tongs according to Claim 1, wherein the retaining device can be moved together with the first welding tong limb between its said insertion and welding positions. **(The actuator 128 moves with the welding arm between its insertion and welding positions. See Fig 27)**

Regarding Claim 3: Welding tongs according to Claim 1 wherein the moveable housing is supported for movement on the drive housing and/or on another part of the welding tongs by at least one linear guide, in particular a sliding guide. **(The actuator 128 is supported on the drive housing by rods 130, which constitute sliding linear guides. The frame 130 slides on guide rods 130. See Fig 27 and Paragraph [0070])**

Regarding Claim 4: Welding tongs according to claim 3 wherein the sliding guide comprises a guide rail at least one bogie which are moveable relative to one another. **(The frame has an element as shown in Fig 27 which makes up a bogie for supporting the rod 130 in a track. See Fig 27 and 28)**

Regarding Claim 5: Welding tongs according to claim 4, wherein the guide rail on the moveable housing and the bogie on the drive housing are each particularly detachably mounted. **(The rod 130 and frame element which acts as a track are capable of being detached from the drive housing. In Fig 35 tie rods 164, similar to rod 130, can clamp the actuator together for easy disassembly. See Paragraph [0073])**

Regarding Claim 6: Welding tongs according to claim 5 wherein the bogie is fixed immovably on the drive housing. **(The rod 130 and frame element which acts as a track or bogie are capable of being fixed to the drive housing.)**

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Regarding Claim 7: Welding tongs according to claim 6 wherein at least two bogies are arranged spaced from one another in the displacement direction of the guide rail. **(Fig 27 shows the device being symmetrical with a second rod 130 with a frame element acting as a track on the back side of the device.)**

Regarding Claim 8: Welding tongs according to claims claim 7 wherein the bogie comprises a lubricant reservoir. **(The frame element acting as a track has an open area which is capable of housing fluid. See Fig 27)**

Regarding Claim 9: Welding tongs according to claim 8 wherein the moveable housing comprises two housing halves arranged essentially symmetrically to one another and extending in the displacement direction and which are detachably joined together at least at their ends by a front and/or rear face plate. **(Fig 45 shows the movable housing behind actuator 128 being formed from two vertical halves which are symmetrical to each other and are detachably joined.)** wherein the front face plate is formed as a retaining device. **(Trunnion 188 in Fig 42 forms a face plate and is part of a retaining device. See Paragraph [0076])**

Regarding Claim 10: Welding tongs according to claims claim 9, in that wherein the housing halves are formed in an approximate C-shape and a cover panel is arranged between two mutually facing upper ends of the housing halves. **(In Fig 45 the two**

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vertical halves are C-shaped and a cover is arranged horizontally between the two upper ends of the vertical halves.)

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 11- 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beauregard et al in view of Taniguchi et al (US 6,337,456).

The teachings of Beauregard et al have been discussed above.

Beauregard also teaches:

Regarding Claim 11: (In Fig 45 the insertion grooves are located on the cover plate.)

Beauregard fails to teach:

Regarding Claim 11: Welding tongs according to claim 11 wherein insertion grooves for the circumferential retention of the cover panel are formed in the upper ends of the housing halves and in mutually facing inner sides of the face plates.

Beauregard et al discloses the claimed invention except for insertion grooves are formed on the upper ends of the housing halves. It would have been obvious to one of ordinary skill in the art at the time the invention was made to place the insertion grooves on the upper ends of the housing halves instead of the cover plate since it has been held that rearranging parts of an invention involves only routine skill in the art. **(In re Japikse 181 F.2d 1019, 86 USPQ 70 CCPA 1950, MPEP 2144.04)**

Beauregard et al fails to teach:

Regarding Claim 12: Welding tongs according to claim 11 wherein each housing half comprises on its inner side two rail indentations running in the displacement direction at least for the insertion of the lower ends of the corresponding guide rails.

Regarding Claim 14: Welding tongs according to claim 13, wherein a fixing slot formed in the height direction of the guide rail in the housing halves runs along the rail indentation and opens out into the same or is arranged adjacent to the same and a number of clamping holes running transversely to the fixing slot are formed in the housing halves for screwing in appropriate clamping screws.

Beauregard et al also teaches:

Regarding Claim 13: Welding tongs according to claim 12 wherein the guide rails are detachably mounted in the associated rail indentation, in particular by screwed joints.

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(Fig 27 shows the rod 130 in guide being detachably mounted by a screw on the front of the rod. There is also a screwed joint holding the guide on the upper side of the guide securing the guide to a plate which is perpendicular to the guide.)

Taniguchi et al teaches:

Regarding Claim 12: Fig 4 shows main body 8 having two rail indentations 9 on either side, running in the same direction as the displacement of ball screw 10 towards the second electrode. **(See Fig 4, Column 7, Lines 42-45)**

Regarding Claim 14: Fig 4 shows rail indentions U forming a slot horizontally, or in a "height direction" on the guide rail and are arranged next to bolts b1, secured through holes, which are capable of holding together housing halves. **(See Fig 4, Column 6, Lines 48-50 and Column 7, Lines 46-48)**

In view of Taniguchi et al's teachings it would have been obvious to one of ordinary skill in the art at the time of the invention to include with the teachings of Beauregard et al, the rail indentions in the housing halves and the slot formed in the height direction and the clamping holes for screwing in appropriate clamping screws since, Taniguchi teaches the rail indentions to guide and facilitate a smooth movement of block N, the slot for providing a recess for the rail to lie in and the holes for allowing bolts to be inserted in the housing.

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Beauregard also teaches:

Regarding Claim 16: Welding tongs according to claim 15, wherein the rail reference edge is formed by a step edge between the two indentation sections **and/or** by an edge of the rail indentation lying opposite the pressure pad relative to the guide rail. **(The guide for rod 130 shown in Fig 27 contains an edge which can be considered a step edge. Since the guide is not infinite it contains an edge at the end and on the inside of the tube structure. The second part of the claim after and/or is not considered on its merits since the claim is in alternative form.)**

Beauregard fails to teach:

Regarding Claim 15: Welding tongs according to claim 14, wherein the rail indentation formed with a different depth comprises indentation sections adjacent to one another, wherein the first indentation section with a shallower depth accommodates the lower end of the guide rail and a pressure pad is arranged in the second indentation section with a greater depth, which in particular detachably fixes the guide rail within the rail indentation relative to a rail reference edge.

Regarding Claim 17: Welding tongs according to claim 16, in that wherein the pressure pad is mounted detachably within the second indentation section and for force application in particularly sideward in the direction of the rail reference edge.

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Regarding Claim 18: Welding tongs according to claim 17 wherein screws and in particular set screws are provided for the sideward application of force to the pressure pad.

Taniguchi et al teaches:

Regarding Claims 15 and 17: The rail indentions 9 having indentation sections adjacent to one another are a design choice for the rail. These sections are also created in rail indentions 9 by balls br in Fig 4. The section U has a bottom section which is wider than the top section in accordance with the invention. The device contains a balancing air pressure circuit which would contain a pressure sensor in the device.

(See Column 3, Lines 40-45)

Regarding Claim 18: Bolts b1 or screws are capable of providing force to a pressure pad. **(See Fig 4.)**

In view of Taniguchi et al's teachings it would have been obvious to one of ordinary skill in the art at the time of the invention to include with the teachings of Beauregard et al, the indentation sections and pressure pad with the pad being mounted detachably within the second indentation since, Taniguchi teaches the rail indentation sections to guide and facilitate a smooth movement of the block and piston unit and the pressure circuit which would contain a sensor for monitoring the air pressure in the rail indentations and bolts or screws capable of being tightened to provide pressure.

Beauregard also teaches:

Regarding Claim 19: Welding tongs according to claim 18 wherein the bogie can be pressed on a bogie reference edge formed outside on the drive housing and extending in the displacement direction. **(There is an edge which can be considered a reference edge on the tube outside the housing, which is behind actuator 128, capable of allowing the bogie or rod 130 to be pressed against it. This edge extends along the tube in the direction of the displacement of the electrode 126. See Fig 27 and Figs 29, 30)**

Regarding Claim 20: Welding tongs according to claim 19 wherein screws and in particular set screws are provided for pressing on the bogie reference edge. **(Fig 42 shows four screws on the outside of a plate which press against an edge of the rods 164 which have an edge. See Paragraph [0076])**

Regarding Claim 21: Welding tongs according to claim 20 wherein a drive device within the drive housing comprises a screw drive with threaded rod and screw drive nut as a mechanical adjusting device in the displacement direction wherein the screw drive nut is arranged rotatable, but axially fixed and the threaded rod rotationally fixed, but axially moveable, the said threaded rod engaging, particularly rotationally fixed, with its extended end in an indentation formed on the inner side of the front face plate and being mounted detachably on the front face plate. **(A screw rod 174 is turned by a**

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motor driven pulley which moves nut 176 forwards and backwards as the screw rod rotates. The screw rod is axially fixed and has an end contained within an indentation on the face plate. See Fig 27)

Regarding Claim 22: Welding tongs according to claim 21, wherein the first welding tong limb is particularly detachably mounted on the outer side of the front face plate opposite the inner side. **(The electrode 126 is capable of being detached from the front face plate which is supported by actuator 128. See Fig 27 and Column 6, Line 67 – Column 7, Line 5)**

Regarding Claim 23: Welding tongs according to claim 22, wherein the cover panels on the lower ends of the housing halves protrude in the direction of the drive housing.**(Fig 43 shows a side panel near mount 202 which is part of the housing halves which extends towards the drive housing, or actuator 128 in the present case. See Column 8, Lines 60-65)**

Regarding Claim 25: The bogie **(The frame has an element as shown in Fig 27 which makes up a bogie for supporting the rod 130 in a track. See Paragraph [0077])**

Regarding Claim 26: Welding tongs according to claim 25 wherein the rear face plate is essentially inverse U-shaped and partially grips around the drive housing with its U-

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opening. **(Fig 30 shows a plate with two vertical sections on opposite side of a horizontal section forming an inverse U, part of which is a plate on the rear of the drive housing or actuator 128. The actuator is inside the U-shaped opening. See Paragraph [0071])**

Regarding Claim 28: Welding tongs according to claim 27 wherein the drive housing comprises a sideward protruding mounting flange for the detachable mounting of a base plate. **(The drive housing or actuator 128 is mounted to yoke 134 and connects with frame 136 and make up a flange for attaching a base plate 132 to be connected to a robotic arm. See Paragraph [0071])**

Regarding Claim 29: Welding tongs according to claim 28 wherein the base plate can be directly or indirectly connected to a handling device. **(The gun 122 is designed to be supported by a robot, handling device, and has a robot mount 132. See Paragraph [0071])**

Regarding Claim 30: Welding tongs according to claim 29 wherein with an indirect connection to the handling device a tongs compensating device is arranged between the said handling device and the base plate. **(The yoke 134 has a pair of plates which make up a compensating device and base plate for clamping together with weld arm 123. See Paragraph [0068])**

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Regarding Claim 31: Welding tongs according to claim 30 wherein the tongs compensating device comprises an adjustment device for the second welding tong limb and/or the drive housing. **(Fig 38 shows an adaptor plate 156 or compensating device which supports the second electrode arm and motor 154 which adjusts the electrode arm based on the desired position. See Column 7, Lines 38-42)**

Regarding Claim 32: Welding tongs according to claim 31 wherein the adjustment device comprises a displacement device between particularly the base plate and a base frame which can be connected to the handling device and a drive device. **(The motor 154 adjusts and displaces the electrode arm and can be connected to a handling device via adaptor plate 156. See Paragraph [0069])**

Regarding Claim 34: Welding tongs according to claim 33 wherein the guide rails are detachably fixed to the base frame and the bogies can be moved along the guide rails wherein they are detachably fixed to the base plate. **(The rod 130 and frame element which acts as a track are capable of being detached from the drive housing. The frame has an element as shown in Fig 27 which makes up a bogie for supporting the rod 130 in a track. See Fig 27 and 28. They are connected to yoke 134 which is a base plate.)**

Regarding Claim 35: Welding tongs according to claim 34 wherein at least two bogies are assigned to each guide rail.

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Beauregard et al discloses the claimed invention except for the at least two bogies assigned to each guide rail. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include at least two bogies assigned to each rail since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. **(St. Regis Paper Co. v. Bemis Co., 193 USPQ 8. or In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) MPEP 2144.04)**

Regarding Claim 36: Welding tongs according to claim 35 wherein the bogies and/or the guide rails are mounted on the base plate or respectively on the base frame relative to the reference edges. **(The rod 130 and frame element which acts as a track are capable of being detached from the drive housing. The frame has an element as shown in Fig 27 which makes up a bogie for supporting the rod 130 in a track. See Fig 27 and 28. They are connected to yoke 134 which is a base plate.)**

Regarding Claim 37: Welding tongs according to claim 36 wherein the second welding tong limb is detachably mounted at its mounting end on an underside of the base plate facing away from the drive housing. **(The yoke 134 has a pair of plates which make up a compensating device and base plate for clamping together with weld arm 123. See Paragraph [0068])**

Regarding Claim 38: Welding tongs according to claim 37 wherein the drive housing with the moveable housing in place, the base plate, the tongs compensating device and

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the base frame are arranged essentially one above the other and exhibit essentially the same dimensions in the displacement direction and / or in the direction transverse to the displacement direction. **(Fig 27 shows the yoke 134, which is a base plate and compensating device, and the actuator 128 or movable housing being essentially the same dimension in the direction transverse to the displacement direction.)**

Regarding Claim 39: Welding tongs according to claim 38 wherein a bellows of the drive device is detachably mounted with one end on the inner side of the front face plate and its other end particularly on a shoulder within the drive housing. **(The servo actuator 200 comprises a bellows as shown in Fig 43, which is capable of being detached from trunnion 138 or face plate. Fig 47 shows the bellows with the other end attached to a flange which is attached to drive housing. See Paragraph [0077])**

Regarding Claim 40: Welding tongs according to claim 39 in that wherein a positively locked joint is formed between the face plates and the housing halves and/or between the base plate and drive housing or moveable housing in particular by locating pins, feather keys, film with hard particles or similar components. **(Fig 43 shows the housing halves with trunnion mount 202 attaching the housing to the trunnion 188 or face plate. A trunnion mount is normally held together with a pin. See Paragraph [0077])**

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Beauregard et al fails to teach:

Regarding Claim 24: Welding tongs according to claim 23 wherein the drive device comprises a particularly magnetically operating brake device.

Regarding Claim 25: Welding tongs according to claim 24 wherein the bogie comprises circulating rolling elements for reducing friction.

Regarding Claim 27: Welding tongs according to claim 26 wherein the drive housing comprises a detachable rear housing section lying opposite the first welding tong limb with electrical cables and/or a control electronics unit and/or a tachometer generator or similar device, the said rear housing section being in particular arrangeable and mountable in different rotational positions relative to the remaining drive housing.

Regarding Claim 33: Welding tongs according to claim 32 wherein the displacement device comprises at least two guide rails and bogies assigned to them.

Taniguchi et al teaches:

Regarding Claim 24: There are electromagnetic valves which are capable of executing various operations such as increasing and decreasing internal pressure and/or an operation to switch the direction of the internal pressure. **(See Column 8, Lines 21-28)**
The change in pressure can "brake" the movement of the electrode and it is operated by electromagnets.

In view of Taniguchi et al's teachings it would have been obvious to one of ordinary skill in the art at the time of the invention to include with the teachings of Beauregard et al, the magnetically operating brake device since, Taniguchi teaches the electromagnetic valves for increasing and decreasing the pressure and to supply air in a direction in which most of the load weight of the welding gun can be cancelled by the air.

Regarding Claim 25: Rolling balls are inside the guide rail. **(See Column 7, Lines 42-45)**

In view of Taniguchi et al's teachings it would have been obvious to one of ordinary skill in the art at the time of the invention to include with the teachings of Beauregard et al, the rolling elements since, Taniguchi teaches the rolling balls to smoothly open and close the gun arm.

Regarding Claim 27: A position sensor and speed sensor such as a tachometer, capable of being mounted in different rotational positions, are mounted on the motor M which is in rear housing capable of being detached as shown in Fig 1. **(See Column 6, Lines 8-15)**

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In view of Taniguchi et al's teachings it would have been obvious to one of ordinary skill in the art at the time of the invention to include with the teachings of Beauregard et al, the rear housing and tachometer or control unit since, Taniguchi et al teaches a rear housing for enclosing the motor and a tachometer for controlling the speed of the electrode tip.

Regarding Claim 33: The two guide rods 19a and 19b are each inserted through housings 22a and 22b which make up guide rails and bogies and are mounted on base 6 which are part of a displacement device.

In view of Taniguchi et al's teachings it would have been obvious to one of ordinary skill in the art at the time of the invention to include with the teachings of Beauregard et al, the guide rails and bogies since Taniguchi teaches the guide rods and housings for slidably supporting the equalizing unit.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cecil (US 4,861,959) discloses a resistance spot welding gun.

Kilabarda et al (US 6,911,616) discloses a weld gun assembly with opposing arms and spindle and screw configuration,

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Dugas et al (6,469,272) discloses a weld gun with opposing arms moved by an inverted roller screw linear actuator.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN JENNISON whose telephone number is (571)270-5930. The examiner can normally be reached on M-Th 7:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jared Fureman can be reached on 571-272-2391. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN JENNISON/
Examiner, Art Unit 4184

/Jared J. Fureman/
Supervisory Patent Examiner, Art
Unit 4184

1/05/2009